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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,911	04/21/2004	Tatsutoshi Suzuki	KASA:019A	5638

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EXAMINER	
CADUGAN, ERICA E	
ART UNIT	**PAPER NUMBER**
3722	

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/828,911	SUZUKI, TATSUTOSHI	
	Examiner	Art Unit	
	Erica E Cadugan	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *7-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/21/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the species of Figures 17A-19B (with claims 1-6, 14, and 15 reading thereon) in the reply filed on April 6, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Thus, claims 7-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 1 sets forth a "wedge angle within a range of 15-35 degrees". However, the specification does not provide antecedent basis for this range. Note that paragraph 0096 teaches a wedge angle of between 30 and 35 degrees.

Claim 1 also sets forth a "front clearance angle within a range of 65-45 degrees". However, the specification does not provide antecedent basis for this range. Note that paragraph 0096 teaches a front clearance angle of between 45 and 55 degrees.

Claim 3 sets forth a side clearance angle of between 0 and 3 degrees. However, the specification does not provide antecedent basis for this range. Note that paragraph 0096 teaches a side clearance angle of between 0 and 2 degrees.

Claim Objections

3. Claims 3-4 and 6 are objected to because of the following informalities: in claim 3, line 3, it appears that "degree" should be --degrees--; in claim 4, line 2, it appears that a comma should be added after "cutting parts"; in claim 6, line 2, it appears that "one of edge portions" should be changed to --an edge portion-- (if such change is made, it appears that in claim 6, line 3, "one of said" should be deleted). Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, line 2, it is unclear as claimed, via the lack of a modifying article, whether "cutting parts" is intended to reference same as the "cutting part" that was previously set forth in claim 1. If so, Examiner suggests inserting language such as --the-- or --said-- in claim 4, line 2 immediately prior to "cutting parts".

Similarly, in claim 6, line 2, it is unclear as claimed, via the use of the indefinite article "a" whether "a plurality of cutting parts" is intended to be the same such "plurality" previously set forth in claim 4. If so, Examiner suggests changing "a plurality of cutting parts" to --the plurality of the cutting parts-- in claim 6, line 2.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-5 and 14-15, those of which were rejected under 35 USC 112 above are as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,063,841 to Niman, Jr.

Niman teaches a grooving tool (col. 2, lines 9-14) that can be used for grooving external surfaces, for example (see col. 2, lines 9-14, also Figures 9-13).

Note that there appears to be nothing preventing Niman's grooving tool from cutting grooves, circumferential or otherwise, into whatever workpiece was desired or expedient, including the claimed "surface of a polishing pad formed of a resin material and used for polishing semiconductor devices". Note that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Additionally note that "[i]nclusion of material or article worked on by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). See also MPEP section 2115. Also note that when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. See MPEP Section 2112.01.

Note that the grooving tool taught by Niman has a "cutting part" including one or more inserts 29 (col. 4, lines 49-55 and lines 67-68, Figure 9, for example), each having a "tooth width". Niman explicitly teaches that the "tooth width" of the inserts "may be the same width as shown or may be of different widths depending upon the nature of the external grooves to be formed in the workpiece" (see col. 4, lines 56-58).

Regarding the "wedge angle" as claimed, it is noted that Niman teaches that the top surface 57 of the inserts can include an angular grind of 0 to 15 degrees (see col. 3, lines 36-40 and Figure 6). It is noted that, as broadly claimed, such angle can be considered the "wedge angle" as claimed (see Figure 6). It is also noted that 15 degrees is within the range set forth in claim 1.

Regarding the "front clearance angle", note that Niman teaches that the inserts have "clearance angle faces 63" (col. 3, lines 48-52, see also Figures 2 and 4-6, for example), though Niman is silent as to the specific value of the angle.

Re claim 2, it is noted that Niman is silent as to the value of the "rake angle" at which the cutter is applied to the workpiece.

Re claim 3, Niman explicitly teaches that the "side clearance angle" 61 is between 0 and 10 degrees (col. 3, lines 53-62), which range includes values within the range set forth in claim 3.

Re claims 4-5, note that the inserts 29 are shown as regularly spaced from one another in the direction shown as vertical as viewed in Figure 9 via spacers 77 (see Figure 9, also col. 4, lines 49-68), though Niman is silent as to the value of the spaced distance or "pitch".

Re claims 14-15, it is noted that the shape of the inserts 29 and their spacing provides a "serrated" configuration, and thus the "cutting part" has a "tip" or "side surface" (i.e., the left side as viewed in Figure 9) that is considered "serrated" as claimed.

Thus, Niman teaches all aspects of the present invention as set forth in the above rejection based thereon. However, re the tooth width, as described previously, Niman explicitly teaches that the "tooth width" of the inserts "may be the same width as shown or may be of different widths depending upon the nature of the external grooves to be formed in the workpiece" (see col. 4, lines 56-58), but does not explicitly teach a value of the tooth width or that the tooth width is "within a range of 0.005-1.0 mm" as set forth in claim 1. Re the front clearance angle, as described above, Niman is silent as to the exact value or range of values of the described "front clearance angle". Re the rake angle of claim 2, as described above, Niman is silent as to the exact value or range of values of the described "rake angle". Re claim 4, note that the inserts 29 are shown as regularly spaced from one another in the direction shown as vertical as viewed in Figure 9 via spacers 77 (see Figure 9, also col. 4, lines 49-68), though Niman is silent as to the value of the spaced distance or "pitch".

However, re the tooth width, particularly in light of Niman's teaching that the tooth width can be changed according to the desired groove to be produced, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the tooth width whatever value or range of values was desired or expedient to the end user, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Re the values of the "front clearance angle", the "rake angle", and the pitch, particularly since Niman is silent as to particular values for these things, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the front clearance angle, the rake angle, and the pitch whatever value or range of values was desired or expedient to the end user, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

8. Claims 1-6 and 14-15, those of which were rejected above under 35 USC 112 are as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,031,491 to Hofmann.

Hofmann teaches a cutting tool device including a variety of configurations of profile cutting tools 1, 1A (see Figures 1-16). Note that in each case, the profile cutting tool includes a "serrated" "tip" or "side surface".

Re claim 6, note also that each profiled cutting tool has a plurality of "cutting parts" or teeth-like portions that are integrally formed at an edge portion thereof so as to protrude from the edge portion (see the Figures).

Re claim 1, note that there appears to be nothing preventing Hofmann's tool from cutting grooves (via the individual teeth-like protrusions), circumferential or otherwise, into whatever workpiece was desired or expedient, including the claimed "surface of a polishing pad formed of a resin material and used for polishing semiconductor devices". Note that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior

art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Additionally note that "[i]nclusion of material or article worked on by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). See also MPEP section 2115. Also note that when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. See MPEP Section 2112.01.

Re claim 5, note that the pitch of the teeth appears to be "regular" (see the Figures).

However, re claim 1, it is noted that Hofmann is silent as to the values of the tooth width, the wedge angle, and the front clearance angle. Re claim 2, Hofmann is silent as to the value of the rake angle. Re claim 3, Hofmann is silent as to the value of the side clearance angle. Re claim 4, Hofmann is silent as to the pitch of the teeth.

However, particularly since Hofmann is silent as to the specific values described, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made each of these values whatever value or within whatever range of values was desired or expedient to the end user, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erica E Cadugan
Primary Examiner
Art Unit 3722

eec
April 13, 2005